

2010-376-E
233144

JOHN D. RUNKLE
ATTORNEY AT LAW
POST OFFICE BOX 3793
CHAPEL HILL, N.C. 27515-3793

919-942-0600
jrunkle@pricecreek.com

October 19, 2011

Art Graham, Chairman
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

J.R. Kelly, Public Counsel
Florida Office of Public Counsel
111 West Main Street, Room 812
Tallahassee, FL 32399-1400

Stan Wise, Chairman
Georgia Public Service Commission
244 Washington St. SW
Atlanta, GA 30334-9052

Edward Finley, Chairman
N.C. Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4325

Robert Gruber, Executive Director
N.C. Utilities Commission Public Staff
4326 Mail Service Center
Raleigh, NC 27699-4326

John Howard, Chairman
Public Service Commission of S.C.
101 Executive Center Dr., Suite 100
Columbia, SC 29210

RECEIVED

FSC SC
MAIL / DMS

C. Dukes Scott, Executive Director,
S.C. Office of Regulatory Staff
1401 Main Street, Suite 900
Columbia, SC 29201

Re: Westinghouse-Toshiba AP1000 Delays

Gentlemen:

My client, the AP1000 Oversight Group consists of state, regional and national nonprofit organizations concerned about the safety and reliability of the Westinghouse-Toshiba AP1000 reactor design and operating procedures. Utilities in each of your states have proposed to use this design. I am writing to you to point out a potentially serious design flaw with the reactor and urge you to investigate its cost impacts on your state's ratepayers.

The AP1000 Oversight Group has submitted several sets of comments on the rulemaking certification for the AP1000 reactors before the Nuclear Regulatory Commission, Docket NRC-2010-0131, pointing out safety issues as soon as we discover them. The attached supplemental comments describe a newly disclosed design flaw in which the larger AP1000 design is being "shoehorned" into the smaller AP600 design. This could have a significant impact on the safety and reliability of the reactor. Outages could be prolonged as even routine maintenance could necessitate major structural changes, even to the point of removing walls and buildings. Any up-front cost savings in using the AP600-designed turbine building could be overwhelmed by the continuing costs of maintaining and operating the reactor. These high costs of maintenance and operation could be forced on ratepayers after the building was constructed.

The "shoehorn" issue is just another unresolved problem with the design that may lead to extended delays in the certification process. In an October 3, 2011 letter to Westinghouse-Toshiba, the NRC stated that Westinghouse-Toshiba has "failed to effectively demonstrate the ability of the shield building to withstand an aircraft impact." This issue has been unresolved for years and cannot be resolved by pushing it into the operating license stage without entailing potentially significant costs and redesign, and again, causing ratepayers to bear the financial burden.

Several other unresolved issues stem from the Fukushima disaster, and lessons learned about containment pressure, loss of ultimate heat sinks, the inability of the so-called passive system to operate if debris is present and the dangers of the densely-packed spent fuel rods in the AP1000 design will potentially lead to other major costly delays and redesigns.

The commissions in the Southeast need to take extreme caution before arbitrarily accepting the AP1000 reactors without full cost analysis. The ratepayers need to be protected from the impacts of uncontrolled costs over the lifetime of the proposed AP1000 reactors.

Sincerely,

A handwritten signature in cursive script, appearing to read "John D. Runkle".

John D. Runkle

cc. Bill Jacobs, GDS Associates, Inc. (Georgia)

October 18, 2011

UNITED STATES OF AMERICA
U.S. NUCLEAR REGULATORY COMMISSION
BEFORE THE COMMISSION

In the Matter of)	
AP1000 Design Certification Amendment)	NRC-2010-0131
10 CFR Part 52)	RIN 3150-A181

SUPPLEMENTAL COMMENTS BY THE AP1000 OVERSIGHT GROUP ET AL.
(NEWLY DISCLOSED DESIGN FLAW)

NOW COME the AP1000 Oversight Group, the North Carolina Waste Awareness and Reduction Network (NC WARN) and Friends of the Earth (collectively the "Oversight Group") with supplemental comments on the certification of the AP1000 reactor design and operating procedures, Docket NRC-2010-0131, relating to a newly disclosed design flaw.

In its Memorandum and Order, CLI-11-05, September 9, 2011, the Commission addressed the Oversight Group's concerns by referring its comments and petitions to the Staff to be resolved in the Rulemaking Docket, NRC-2010-0131. In its Order the Commission ruled that

[we] Refer to the NRC Staff those elements of the Petition that relate specifically to design certification, for consideration as rulemaking comments. Refer to the NRC Staff for resolution as comment sin the AP1000 rulemaking proceeding, all additional filings relevant to the AP1000 rulemaking proceeding.

The Oversight Group has diligently submitted comments into the rulemaking record as issues affecting the safety and reliability of the AP1000 reactors come to our attention.

NEWLY DISCLOSED DESIGN FLAW

According to newly disclosed information provided to the Oversight Group by a nuclear industry insider, Westinghouse-Toshiba and the NRC have failed to identify a design flaw in the AP1000's turbine building. The information that was received indicated a major structural flaw in the turbine building at the proposed Plant Vogtle reactors, although this flaw relates more broadly to the AP1000 design and its possible certification. The Oversight Group retained Fairewinds Associates and its chief engineer, Arnie Gundersen, to review this new information and these comments reflect his review.

According to the nuclear industry insider, Westinghouse-Toshiba will attempt to install critical safety and generating equipment into the smaller turbine building designed for the AP600, i.e., the AP1000 equipment will be "shoehorned" into the smaller AP600 building. Because the equipment cannot safely fit into the AP600 building, the current AP1000 design ignores safety concerns by limiting access to critical equipment. The reactor designers are allegedly being forced to relocate many essential pieces of equipment into side buildings and add-on buildings not feasible for long-term operations or reliability.

Although the NRC certified the AP600 design, Westinghouse-Toshiba was reportedly unable to sell this smaller-sized reactor to the utility industry, and thus reapplied to the NRC for the scaled up AP1000. In its rush to be eligible for federal subsidies and loan guarantees and in order to lower initial construction costs, Plant Vogtle's turbine building, as well as other proposed reactors utilizing the AP1000 design, was not designed for the expanded AP1000 reactor, and instead Westinghouse-Toshiba has allegedly attempted, albeit unsuccessfully, to shoehorn its equipment into the much smaller AP600 design. According to Mr. Gundersen, the shoehorn design may significantly increase maintenance and repair costs that will be borne by ratepayers of the utilities who wish to use the AP1000 reactors.

According to Mr. Gundersen, the restricted equipment access congruent with the AP1000 redesign would restrict crucial access to the condenser, turbine, and feedwater heater that were integral components of the AP600 design. The shoehorned AP1000 design will limit access to essential equipment, increase operating downtime and outages, and lead to increased ratepayer costs because the shoehorned AP1000 design will make condenser retubing, turbine overhauls, and feedwater heater replacements/repairs impossible without disassembling entire buildings.

Moreover, in addition to higher operating costs and downtime borne by Plant Vogtle's ratepayers, the AP1000 Oversight Group believes shoehorning large AP1000 equipment into the smaller AP600 blueprint would create three unreviewed safety problems the NRC must evaluate:

1. Limited access and cramped equipment may affect the reliability of a nuclear power plant as unreliable systems negatively impact operations by causing frequent breakdowns and burdening safety systems. Frequent plant shutdowns for unanticipated problems challenge reactor safety systems and thus the AP1000 may potentially have its safety systems challenged much more frequently due to the shoehorn design.

2. Shoehorning the larger AP1000 turbine in the smaller AP600 turbine building has the potential for unanalyzed turbine missiles to damage essential safety-related equipment.

3. The auxiliary feedwater system is a nuclear plant's first line of defense to cool the steam generators when it shuts down. With significant portions of the AP1000 auxiliary feedwater system located in the undersized AP600 turbine building the AP1000's auxiliary feedwater system will be challenged to operate as intended.

Finally, in order to conduct a thorough technical analysis of what it believes to be unreviewed and significant safety concerns, the Oversight Group and its consulting engineer attempted to review and analyze building drawings in the AP1000 Design Certification Document Revision 19, Volume 2, Chapter 1, Section 1.2.8 et al., but much

of the detailed descriptions of the turbine building were not available for engineering review because they were marked "Security-Related Information, Withhold Under 10 CFR 2.390d." It is therefore up to the Commission, NRC Staff and Advisory Committee on Reactor Safeguards to fully investigate these potentially serious safety concerns and promptly determine if the AP1000 is shoehorned into the AP600.

CONCLUSION

Until the safety issues associated with the impact of the shoehorned AP1000 design are addressed prior to the delivery of the "rulemaking package" by the NRC Staff to the Commission for consideration of certification of the AP1000 reactor design and operating procedures, the Oversight Group requests that approval of the AP1000 design be suspended. As part of this request and prior to any consideration of certification of the AP1000 reactor, all other features of the AP1000 which have been upscaled from the AP600 design should be reviewed in order to guarantee that proper and validated calculations have been made when basing AP1000 design features on the AP600 model. Lastly, the NRC Staff should immediately apprise the public if the serious safety issue we have raised is accurate and if it is, we recommend that an investigation be conducted to determine how any flawed turbine building design could have been overlooked by Westinghouse-Toshiba or the NRC staff during the AP1000 review process.

Respectfully submitted this 18th day of October 2011.

/signed electronically by/

John D. Runkle
Attorney at Law
Post Office Box 3793
Chapel Hill, North Carolina 27515
telephone: 919-942-0600
email: jrunkle@pricecreek.com